

CLAIMS

1. A filter for selecting and collecting a chlorinated organic compound contained in a fluid from the fluid, comprising:

a fluid-permeable molded body containing fibers and an inorganic binder for binding the fibers to one another, and

a hydrophobic material having higher hydrophobicity than that of the fibers and the inorganic binder, which is retained in the molded body.

2. The filter according to claim 1, wherein the fibers are at least one kind of fibers selected from a group consisting of glass fiber, alumina fiber and silica fiber.

3. The filter according to claim 1, wherein the fibers have an average aspect ratio of 1,000 to 10,000.

4. The filter according to claim 1, wherein the inorganic binder has adsorbing capability for the chlorinated organic compound.

5. The filter according to claim 1, wherein the inorganic binder has adsorbing capability for a tar.

6. The filter according to claim 1, wherein the inorganic

binder is at least one selected from a group consisting of alumina, zeolite and silicon dioxide.

7. The filter according to claim 1, wherein the inorganic binder is particulate.

8. The filter according to claim 1, wherein the hydrophobic material has adsorbing capability for the chlorinated organic compound.

9. The filter according to claim 8, wherein the hydrophobic material is at least one kind selected from the group consisting of active carbon, graphite and styrene-divinylbenzene copolymer.

10. The filter according to claim 1, wherein a bulk density of the molded body is 0.1 to 1 g/cm³.

11. The filter according to claim 1, wherein the hydrophobic material is retained at 0.01 to 10.0% by weight of the molded body.

12. The filter according to claim 1, wherein the fibers are activated alumina fibers, the inorganic binder is particulate activated alumina and the hydrophobic material is powdery

activated carbon.

13. The filter according to claim 12, wherein a bulk density of the molded body is 0.3 to 0.7 g/cm³.

14. The filter according to claim 1, wherein one end is formed into a closed cylinder.

15. A process for producing a filter for selecting and collecting a chlorinated organic compound contained in a fluid, from the fluid, comprising steps of:

preparing a molding material containing fibers and an inorganic binder for binding the fibers to one another,

molding the molding material into a predetermined shape and sintering this to obtain a molded body, and

making the molded body retain a hydrophobic material having higher hydrophobicity than that of the fibers and the inorganic binder.

16. The filter according to claim 15, wherein at least one of the elements including the fibers and the inorganic binder is alumina, and a temperature at sintering is set at 150 to 170°C.

17. The process for producing a filter according to claim 15, which further comprises a step of immersing the molded body

with an aqueous dispersion of the inorganic binder and then drying the body, before the step of making the molded body retain the hydrophobic material.

18. A collector for collecting a chlorinated organic compound contained in a fluid flowing in a transportation tube, comprising:

a fluid-permeable filter for passing the fluid from the transportation tube, and

a container for accommodating the filter, and having an outlet for discharging to the outside the fluid which has passed through the filter,

wherein the filter is provided with a molded body containing fibers, and an inorganic binder for binding the fibers to one another, and a hydrophobic material having higher hydrophobicity than that of the fibers and the inorganic binder, which is retained in the molded body.

19. The collector for collecting a chlorinated organic compound according to claim 18, wherein the filter is a cylinder having an opening for inserting the transportation tube into one side and closed in the other side.

20. A method for collecting a chlorinated organic compound contained in a fluid flowing in a transportation tube, comprising

a step of:

passing the fluid from the transportation tube through a filter provided with a fluid-permeable molded body containing fibers and an inorganic binder for binding the fibers to one another, and a hydrophobic material having higher hydrophobicity than that of the fibers and the inorganic binder, which is retained in the molded body.